

REMARKS

Status of the Claims

Claims 1-26 are pending in this application, the independent claims being claims 1, 25 and 26. By this Amendment, claims 1-26 have been amended; this Substitute Amendment corrects the claim status identifier for claim 23. Claims 7 and 8 have been withdrawn from consideration pursuant to a prior restriction/election requirement.

Summary of the Official Action

In the Official Action, claims 1, 3-6, 9-11, 13-16, 21-24 and 26 were rejected under 35 U.S.C. 102(b), as anticipated by Japanese Patent Document No. 2002-215064 (Takashi), claims 2, 18, 19 and 25 were rejected under 35 U.S.C. 103(a), as unpatentable over the Takashi JP '064 reference in view of Japanese Patent Document No. 2002-0057403 (Yasukawa), claim 12 was rejected under 35 U.S.C. 103(a), as unpatentable over the Takashi JP '064 reference in view of Japanese Patent Document No. 2002-244155 (Masao), and claim 17 was rejected under 35 U.S.C. 103(a), as unpatentable over the Takashi JP '064 reference in view of U.S. Patent No. 5,953,085 (Shimada).

Reconsideration and withdrawal of the rejections respectfully are requested in view of the above amendments and the following remarks.

Claim Amendments

The rejections of the claims respectfully are traversed. Nevertheless, without conceding the propriety of the rejections, claims 1-26 have been amended herein more clearly to recite various novel features of the claimed invention. In particular, claims 1-26 have been amended to recite singular rather than plural feature elements throughout the claims, to simplify the claims, clarify relationships among the various elements and avoid confusion; however, the claims are not limited to structures including only single feature elements, but include structures including plural elements, as disclosed in the present application.

Independent claims 1, 25 and 26 also have been amended to recite the feature of a light-blocking shield layer located between the data line and pixel electrode. Support for the amendments may be found in the original application, e.g., in Fig. 6 and the corresponding text at paragraph [0172]. No new matter has been added.

Claimed Invention

The present invention relates to a novel electro-optical device. In one aspect, as recited in independent claim 1, the claimed invention relates to an electro-optical device comprising, above a substrate a data line extending in a first direction, a scanning line extending in a second direction and intersecting the data line, a pixel electrode and a thin film transistor disposed so as to correspond to an intersection region of the data line and the scanning line, a storage capacitor electrically connected to the thin film transistor and the pixel electrode, and a light-blocking shield layer disposed above the thin film transistor at a position between the data line and the pixel electrode, the light-blocking shield layer covering the data line and including a lower layer formed from aluminum and an upper layer formed from titanium nitride, wherein the thin film transistor includes a semiconductor layer having a channel region that extends in a longitudinal direction and a channel adjacent region that further extends from the channel region in the longitudinal direction, and the scanning line includes a light-shielding part disposed at a side of the channel region.

In another aspect, as recited in independent claim 25, the claimed invention relates to an electro-optical device comprising, above a substrate a data line extending in a first direction, a scanning line that extends in a second direction and intersects the data line, a pixel electrode and thin film transistor disposed so as to correspond to an intersection region of the data line and the scanning line, a storage capacitor electrically connected to the thin film transistor and the pixel electrode, and a light-shielding film disposed between the data line and the pixel electrode, the light-blocking shield layer covering the data line and

including a lower layer formed from aluminum and an upper layer formed from titanium nitride, the thin film transistor including a semiconductor layer having a channel region that extends in a longitudinal direction and a channel adjacent region that further extends from the channel region in the longitudinal direction, and the scanning line including a light-shielding part disposed at a side of the channel region.

In another aspect, as recite in independent claim 26, the claimed invention relates to an electronic apparatus comprising an electro-optical device comprising, above a substrate, a data line extending in a first direction, a scanning line extending in a second direction and intersecting the data line, a pixel electrode and thin film transistor disposed so as to correspond to an intersection region of the data line and the scanning line, and a storage capacitor electrically connected to the thin film transistor and the pixel electrode, and a light-blocking shield layer disposed above the thin film transistor at a position between the data line and the pixel electrode, the light-blocking shield layer covering the data line and including a lower layer formed from aluminum and an upper layer formed from titanium nitride, the thin film transistor including a semiconductor layer having a channel region that extends in a longitudinal direction and a channel adjacent region that further extends from the channel region in the longitudinal direction, and the scanning line including a light-shielding part disposed at a side of the channel region.

In each of these aspects, the claimed electro-optical device comprises, inter alia, a light-blocking shield layer disposed above the thin film transistor at a position between the data line and the pixel electrode, where the light-blocking shield layer covers the data line and includes a lower layer formed from aluminum and an upper layer formed from titanium nitride.

Prior Art Distinguished

Applicants submit that the prior art fails to anticipate the claimed invention.

Moreover, Applicants submit that there are differences between the subject matter sought to be patented and the prior art, such that the subject matter taken as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made.

In particular, Applicants submit that the prior art fails to disclose or suggest an electro-optical device including at least the claimed feature of a light-blocking shield layer disposed above the thin film transistor at a position between the data line and the pixel electrode, where the light-blocking shield layer covers the data line and includes a lower layer formed from aluminum and an upper layer formed from titanium nitride, as disclosed in the present application and recited in the claims.

The Takashi JP '064 reference relates to fails to disclose or suggest a light-blocking shield layer between the data line 6a and the pixel line 9a.

Applicants submit that the Yasukawa JP '403 reference, the Masao JP '155 reference and the Shimada '085 patent fail to remedy this deficiency of the Takashi JP '064 reference, or add anything to the Takashi JP '064 reference that would make obvious the claimed invention.

For the above reasons, Applicants submit that claims 1, 25 and 26 are allowable over the cited art.

Claims 2-24 depend from claim 1 and are believed allowable for the same reasons. Moreover, each of these dependent claims recites additional features in combination with the features of base claim 1, and is believed allowable in its own right. Individual consideration of the dependent claims respectfully is requested.

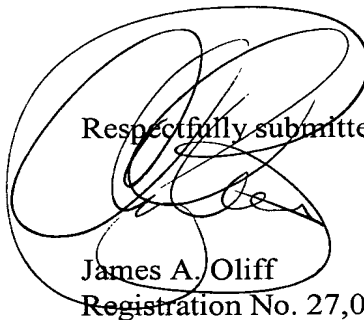
In this regard, although claims 7 and 8 have been withdrawn from consideration pursuant to a prior election of species requirement, Applicants submit that these claims are

allowable for the same reasons as claim 1, and respectfully request that these claims be rejoined, considered, and allowed to pass to issue for the same reasons as claim 1.

Conclusion

Applicant believes that the present Amendment is responsive to each of the points raised by the Examiner in the Official Action, and submits that the application is in condition for allowance. Favorable consideration of the claims and passage to issue of the application at the Examiner's earliest convenience earnestly are solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.


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